

4. SAFETY

4.1 Rail Operations

Railroad safety rules are designed to protect railroad workers, not agency inspectors. **THE EQUIPMENT YOU ARE INSPECTING IS NON-FORGIVING.**

Inspections should always be done with a representative of the railroad whenever possible. Face-to-face contact and communications must be made with the railroad employees for your safety. **REMEMBER, ALL RAILS ARE LIVE AND YOU MUST TREAT THEM AS SUCH.**

Inspectors should always wear hard hats, eye and ear protection, coveralls, appropriate footwear, and gloves while performing inspections on railroad equipment. **THE SAFETY RULES OF THE RAILROAD MUST BE ADHERED TO. YOU ARE PROBABLY ON RAILROAD-OWNED PROPERTY AND EQUIPMENT.**



Photograph 4-1.
Blue Flag (No Operation of Train while Displayed)

4.2 Flag Protection

The railroad industry is governed by many agencies, such as the U.S. Department of Transportation, Federal Railroad Administration, Office of Safety. Within Title 49, Code of Federal Regulations, Section 218 - Railroad Operating Practices, there are many sections relating to safety; two partial sections are listed below:

Blue Flagging

Section 218.23 Blue signal display (b) “Blue Signals must be displayed in accordance with Sections 218.25, 218.27 or 218.29 by each craft or group of workmen prior to going on, under, or between rolling equipment and may only be removed by the same craft or group that displayed them.”

Section 218.25 Workmen on a main track (b) “If the rolling equipment to be protected includes one or more locomotives, a blue signal must be attached to the controlling locomotive at a location where it is readily visible to the engineman or operator at the controls of that locomotive.”

Section 218.25 Workmen on a main track (c) “When emergency repair work is to be done on, under or between a locomotive or one or more are coupled to a locomotive, and blue signals are not available, the engineman or operator must be notified and effective measures must be taken to protect the workmen making repairs.”

If your inspection is made when a blue signal is not available, you must establish face-to-face contact and communications with the engineman or operator of the locomotive prior to the inspection and after completing the inspection.



**Photograph 4-2.
Torpedo Emergency Signaling Device**

Torpedoes

When a train stops on a main track, flag protection against following trains on the same track must be provided as follows: A crew member with flagman’s signals must immediately go back at least the distance prescribed by timetable or other instruction for the territory, place at least two torpedoes on the rail at least 100 feet apart, and display a lighted fusee.



Photograph 4-3.
Chock Block Device (used when train is parked)

4.3 Mechanical Inspections

Most mechanical inspections will be made of either the exhaust or brake systems of railroad rolling equipment or of the maintenance of way equipment.

WHEN INSPECTIONS ARE MADE THAT REQUIRE ASCENDING AND DESCENDING RAILROAD EQUIPMENT, ALWAYS FACE THE EQUIPMENT WHEN MOUNTING AND DISMOUNTING AND USE HANDHOLDS.



**Photograph 4-4.
Hands Hold**

Locomotives are very large pieces of equipment. Locomotive weight range from 273,080 lbs. for an EMD GP-40 to 415,000 lbs. for a GE C60 AC. Heights for these same units measured from the top rail are approximately 16 feet. Lengths range from 59 to 80 feet, most are over 10 feet in width. Fuel capacity ranges from 3,200 to 5,500 gallons of diesel, lube oil averages 400 gallons per unit. Rated horsepower varies between 3,000 to 6,000 with an average minimum speed of 12 mph to a maximum speed of 70 mph.



**Photograph 4-5.
EMD Locomotive**